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EXAMINER

WONG, ALLEN C

ART UNIT	PAPER NUMBER
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 15

Application Number: 09/338,176
Filing Date: June 22, 1999
Appellant(s): SHUM ET AL.

Stephen A. Wight
For Appellant

EXAMINER'S ANSWER

MAILED

APR 21 2004

Technology Center 2600

This is in response to the appeal brief filed February 2, 2004.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that Group I consists of claims 1-37 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

Group I comprises claims 1-8 and 23-37.

Group II comprises claims 9-22.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

6,046,745

MORIYA ET AL

4-2000

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Moriya (6,046,745).

Regarding claim 37, Moriya discloses an apparatus for recovering a three-dimensional scene from a sequence of two-dimensional frames by segmenting the frames, comprising:

means for capturing two-dimensional images (fig.40, element 4030 obtains the images and also note that two-dimensional features are taken into consideration by element 4032);

means for dividing the sequence into segments (fig.40, the actual image data sequence is moved to element 4038 for division into segments);

means for calculating a partial model for each segment that includes three-dimensional coordinates and camera pose for features within the frames (fig.40, element 4040 uses the information extracted by element 4036 to obtain the camera parameters 4034, ie. camera rotation and translation, and vital image three-dimensional feature data stored at element 4038);

means for extracting virtual key frames from each partial model (fig.40, note element 4036 extracts virtual key frames data from elements 4032, 4037 and 4038);
and

means for bundle adjusting the virtual key frames to obtain a complete three-dimensional reconstruction of the two-dimensional frames (fig.40, element 4040 bundle adjusts the virtual key frames and thus produces the complete three-dimensional reconstruction of two-dimensional frames at the output end).

Note claims 1, 2, 4-7, 9-18, 20, 21, 23, 24, 27-29, 31 and 33-36 have corresponding elements.

Regarding claim 3, Moriya discloses the feature points of segmented image data are stored (fig.40, elements 4032 and 4038).

Regarding claims 8, 22 and 30, Moriya discloses computer executable instructions are performed (fig.40, element 4040 and col.29, lines 35-38).

Regarding claims 19 and 25, Moriya discloses the identification of feature points in the frames by motion estimation (fig.40, elements 4032 and 4038).

Regarding claim 26, Moriya discloses the corners are used as feature points (col.29, lines 28-31).

Regarding claim 32, Moriya discloses the representative frames have uncertainty (fig.40, element 4040 determines the representative frames have uncertainty and processes the images accordingly to produce three-dimensional images).

(11) Response to Argument

Group I: Claims 1-8 and 23-37

Regarding line 7 on page 7 of appellant's arguments, appellant argues that Moriya does not teach or suggest "dividing the sequence of image into segments." The examiner respectfully disagrees. As stated before, Moriya's figure 40, the actual image data sequence is moved to element 4038, where the sequential image data is divided into segmented image data such as sub-figures like points, lines, planes, as disclosed in col.29, ln.28-31. Thus, it is broadly interpreted that Moriya teaches the actual image data sequence is segmented into sub-figures, sub-parts or segments.

Further, Moriya's column 32, lines 40-46 disclose that it is possible to apply the Moriya's invention to any previously taken image or footage. The term "footage" is

defined as a segment of a motion picture film that depicts a particular event, as defined on page 495 in Webster's II New Riverside University Dictionary. Clearly, the discussion of footage discloses the sequence of images that are obtained from the segment of a motion picture film that depicts a particular event since it would take a multitude or sequence of images to capture the whole essence, scene of a particular event. Thus, Moriya discloses the limitation "dividing the sequence of image into segments." And thus, Moriya clearly provides a "sequence of images" with the aforementioned citation.

Dependent claims 2-8 are rejected for the same reasons as above.

Claims 23-30 are rejected for the same reasons as set forth above with regard to claim 1.

Claims 31-35 are rejected for the same reasons as set forth above with regard to claim 1.

Claim 36 is rejected for the same reasons as set forth above with regard to claim 1.

Claim 37 is rejected for the same reasons as set forth above with regard to claim 1.

Group II: Claims 9-22

Regarding lines 13-16 on page 13 of appellant's arguments, appellant contends that Moriya does not teach or suggest "dividing the sequence of image into segments." The examiner respectfully disagrees. As stated before, Moriya's figure 40, the actual image data sequence is moved to element 4038, where the sequential image data is

divided into segmented image data such as sub-figures like points, lines, planes, as disclosed in col.29, ln.28-31. Thus, it is broadly interpreted that Moriya teaches the actual image data sequence is segmented into sub-figures, sub-parts or segments.

Further, Moriya's column 32, lines 40-46 disclose that it is possible to apply the Moriya's invention to any previously taken image or footage. The term "footage" is defined as a segment of a motion picture film that depicts a particular event, as defined on page 495 in Webster's II New Riverside University Dictionary. Clearly, the discussion of footage discloses the sequence of images that are obtained from the segment of a motion picture film that depicts a particular event since it would take a multitude or sequence of images to capture the whole essence, scene of a particular event. Thus, Moriya discloses the limitation "dividing the sequence of image into segments." And thus, Moriya clearly provides a "sequence of images" with the aforementioned citation.


Claims 10-22 are rejected for the same reasons as set forth above with regard to claim 9.

In conclusion, it is strongly believed that the current invention as disclosed by appellant is not patentable because Moriya meets the broad limitations of the claims for the reasons as set forth in the above paragraphs.

For the above reasons, it is believed that the rejections should be sustained.

Application/Control Number: 09/338,176
Art Unit: 2613

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Respectfully submitted,

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Examiner
Art Unit 2613

AW
April 7, 2004

Conferees



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